

## 08963656 Results

Antibody  
SEQ ID NO: 2

## SUMMARIES

| Result<br>No. | Score | Query |        | DB | ID       | Description        |
|---------------|-------|-------|--------|----|----------|--------------------|
|               |       | Match | Length |    |          |                    |
| 1             | 355   | 100.0 | 355    | 19 | AAW51744 | Human C-C chemokin |
| 2             | 308   | 86.8  | 355    | 17 | AAW03376 | CC-chemokine recep |
| 3             | 308   | 86.8  | 355    | 18 | AAW10100 | Human C-C chemokin |
| 4             | 228   | 64.2  | 355    | 17 | AAW03377 | CC-chemokine recep |
| 5             | 228   | 64.2  | 355    | 18 | AAW31850 | Human eosinophil e |
| 6             | 228   | 64.2  | 355    | 18 | AAW27124 | Human chemokine re |
| 7             | 228   | 64.2  | 355    | 19 | AAW51745 | Human C-C chemokin |
| 8             | 228   | 64.2  | 355    | 22 | AAG80109 | Human CCR3 protein |
| 9             | 228   | 64.2  | 356    | 18 | AAW25943 | Human CCR3 chemok  |
| 10            | 190   | 53.5  | 355    | 22 | ABB56341 | Non-endogenous hum |
| 11            | 134   | 37.7  | 355    | 17 | AAW03378 | CC-chemokine recep |
| 12            | 134   | 37.7  | 355    | 19 | AAW51746 | Human C-C chemokin |
| 13            | 41    | 11.5  | 295    | 22 | AAG80106 | Human CCR1 protein |
| 14            | 41    | 11.5  | 355    | 15 | AAR52749 | C-C chemokine rece |
| 15            | 41    | 11.5  | 355    | 18 | AAW26588 | Human MIP-1 alpha/ |
| 16            | 41    | 11.5  | 355    | 18 | AAW25751 | Human MIP-1alpha/R |
| 17            | 41    | 11.5  | 355    | 21 | AAB20571 | Human CC-chemokine |

## RESULT 15

AAW26588

ID AAW26588 standard; Protein; 355 AA.

XX

AC AAW26588;

XX

DT 21-JAN-1998 (first entry)

XX

DE Human MIP-1 alpha/RANTES receptor.

XX

KW Macrophage inflammatory protein-1 alpha; MIP-1 alpha;  
 KW reduced upon activation normal T expressed and secreted; RANTES;  
 KW receptor; cytokine; antiinflammatory; inflammation; human.

XX

OS Homo sapiens.

XX

PN US5652133-A.

XX

PD 29-JUL-1997.

XX

PF 28-JAN-1993; 93US-0012988.

XX

PR 28-JAN-1993; 93US-0012988.

XX

PA (USSH ) US DEPT HEALTH &amp; HUMAN SERVICES.

XX

PI Murphy PM;

XX

DR WPI; 1997-392945/36.

DR

N-PSDB; AAT90384.

XX

PT MIP-1-alpha and RANTES receptor nucleic acid - used to develop  
 PT products for the detection of these cytokine(s) and their receptors,  
 PT particularly in inflammatory processes

XX

PS Claim 2; Column 15-18; 12pp; English.

XX

CC This polypeptide comprises a claimed receptor for human macrophage  
 CC inflammatory protein-1 alpha (MIP-1 alpha) and regulated upon  
 CC activation normal T expressed and secreted (RANTES) protein. Also  
 CC claimed are: a nucleic acid (see AAT90384) that encodes the receptor;  
 CC a subsequence of the nucleic acid, having at least 12 contiguous

CC nucleotides; a cell transformed or transfected with the nucleic  
 CC acid; and purified MIP-1 alpha/RANTES receptor polypeptide. The  
 CC products can be used for detecting the MIP-1 alpha/RANTES receptor  
 CC and polymorphisms in physiological samples. In addition, the  
 CC receptor can be expressed and used to assay for MIP-1a/RANTES in  
 CC biological samples. The quantitation of MIP-1 alpha/RANTES is  
 CC useful for monitoring the levels of these cytokines in a patient.  
 CC Such measurements are useful in following the antiinflammatory  
 CC effects of drugs and prospective usefulness of new antiinflammatory  
 CC agents.  
 XX  
 SQ Sequence 355 AA;

Query Match 11.5%; Score 41; DB 18; Length 355;  
 Best Local Similarity 100.0%; Pred. No. 1.4e-31;  
 Matches 41; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 115 TGLYSEIFFIILLTIDRYLAIVHAVFALRARTVTFGVITSI 155  
 |||||  
 Db 115 tglyseiffiilltidrylaivhavfalrartvtfgvitsi 155

#### SUMMARIES

| Result<br>No. | %<br>Query |       | Length | DB | ID                | Description       |
|---------------|------------|-------|--------|----|-------------------|-------------------|
|               | Score      | Match |        |    |                   |                   |
| 1             | 228        | 64.2  | 355    | 4  | US-08-575-967A-4  | Sequence 4, Appli |
| 2             | 228        | 64.2  | 355    | 4  | US-08-847-296B-1  | Sequence 1, Appli |
| 3             | 228        | 64.2  | 355    | 4  | US-09-045-583-54  | Sequence 54, Appl |
| 4             | 41         | 11.5  | 355    | 1  | US-08-012-988A-2  | Sequence 2, Appli |
| 5             | 41         | 11.5  | 355    | 1  | US-08-450-393A-5  | Sequence 5, Appli |
| 6             | 41         | 11.5  | 355    | 4  | US-08-446-669-5   | Sequence 5, Appli |
| 7             | 41         | 11.5  | 355    | 4  | US-09-045-583-53  | Sequence 53, Appl |
| 8             | 41         | 11.5  | 355    | 4  | US-09-239-938-1   | Sequence 1, Appli |
| 9             | 41         | 11.5  | 355    | 5  | PCT-US95-00476-5  | Sequence 5, Appli |
| 10            | 31         | 8.7   | 31     | 1  | US-08-450-393A-14 | Sequence 14, Appl |
| 11            | 31         | 8.7   | 31     | 4  | US-08-446-669-14  | Sequence 14, Appl |
| 12            | 31         | 8.7   | 31     | 5  | PCT-US95-00476-14 | Sequence 14, Appl |
| 13            | 22         | 6.2   | 31     | 1  | US-08-450-393A-13 | Sequence 13, Appl |

RESULT 15  
 PCT-US95-00476-13  
 ; Sequence 13, Application PC/TUS9500476  
 ; GENERAL INFORMATION:  
 ; APPLICANT: The Regents of the University of California  
 ; TITLE OF INVENTION: MAMMALIAN MONOCYTE CHEMOATTRACTANT  
 ; TITLE OF INVENTION: PROTEIN RECEPTORS  
 ; NUMBER OF SEQUENCES: 14  
 ; CORRESPONDENCE ADDRESS:  
 ; ADDRESSEE: Robbins, Berliner & Carson  
 ; STREET: 201 N. Figueroa Street, 5th Floor  
 ; CITY: Los Angeles  
 ; STATE: California  
 ; COUNTRY: USA  
 ; ZIP: 90012-2628  
 ; COMPUTER READABLE FORM:  
 ; MEDIUM TYPE: Floppy disk  
 ; COMPUTER: IBM PC compatible  
 ; OPERATING SYSTEM: PC-DOS/MS-DOS  
 ; SOFTWARE: PatentIn Release #1.0, Version #1.25  
 ; CURRENT APPLICATION DATA:  
 ; APPLICATION NUMBER: PCT/US95/00476  
 ; FILING DATE:  
 ; CLASSIFICATION:  
 ; ATTORNEY/AGENT INFORMATION:  
 ; NAME: Berliner, Robert

```

;      REGISTRATION NUMBER: 20,121
;      REFERENCE/DOCKET NUMBER: 5555-291
;      TELECOMMUNICATION INFORMATION:
;      TELEPHONE: 310-977-1001
;      TELEFAX: 310-977-1003
;      TELEX:
;      INFORMATION FOR SEQ ID NO: 13:
;      SEQUENCE CHARACTERISTICS:
;      LENGTH: 31 amino acids
;      TYPE: amino acid
;      TOPOLOGY: linear
;      MOLECULE TYPE: peptide
PCT-US95-00476-13

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Query Match 6.2%; Score 22; DB 5; Length 31;  
Best Local Similarity 100.0%; Pred. No. 1e-13;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy      121 IFFIILLTIDRYLAIVHAVFAL    142  
         |||||||  
Db         1 IFFIILLTIDRYLAIVHAVFAL    22

```

RESULT 13
US-08-450-393A-13
; Sequence 13, Application US/08450393A
; Patent No. 5707815
; GENERAL INFORMATION:
; APPLICANT: Charo, Israel
; APPLICANT: Coughlin, Shaun
; TITLE OF INVENTION: MAMMALIAN MONOCYTE CHEMOATTRACTANT
; TITLE OF INVENTION: PROTEIN RECEPTORS
; NUMBER OF SEQUENCES: 14
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Cooley Godward Castro Huddleson & Tatum
; STREET: 5 Palo Alto Square
; CITY: Palo Alto
; STATE: California
; COUNTRY: USA
; ZIP: 94306-2155
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/450,393A
; FILING DATE: May 25, 1995
; CLASSIFICATION: 424
; ATTORNEY/AGENT INFORMATION:
; NAME: Cserr, Luann
; REGISTRATION NUMBER: 31,822
; REFERENCE/DOCKET NUMBER: UCAL-237/02US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 415-843-5165
; TELEFAX: 415-8857-0663
; TELEX: 380816CooleyPA
; INFORMATION FOR SEQ ID NO: 13:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 31 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-08-450-393A-13

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Query Match 6.2%; Score 22; DB 1; Length 31;  
Best Local Similarity 100.0%; Pred. No. 1e-13;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 121 IFFIILLTIDRYLAIVHAVFAL 142  
 |||||  
 Db 1 IFFIILLTIDRYLAIVHAVFAL 22

RESULT 8  
 US-09-239-938-1  
 ; Sequence 1, Application US/09239938  
 ; Patent No. 6329510  
 ; GENERAL INFORMATION:  
 ; APPLICANT: Qin, Shixin  
 ; APPLICANT: Newman, Walter  
 ; APPLICANT: Kassam, Nasim  
 ; APPLICANT: LeukoSite, Inc.  
 ; TITLE OF INVENTION: ANTI-CCR1 ANTIBODIES AND METHODS OF USE  
 ; TITLE OF INVENTION: THEREFOR  
 ; FILE REFERENCE: LKS97-13  
 ; CURRENT APPLICATION NUMBER: US/09/239,938  
 ; CURRENT FILING DATE: 1999-01-29  
 ; NUMBER OF SEQ ID NOS: 1  
 ; SOFTWARE: FastSEQ for Windows Version 3.0  
 ; SEQ ID NO 1  
 ; LENGTH: 355  
 ; TYPE: PRT  
 ; ORGANISM: Homo sapien  
 US-09-239-938-1

Query Match 11.5%; Score 41; DB 4; Length 355;  
 Best Local Similarity 100.0%; Pred. No. 1.4e-30;  
 Matches 41; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 115 TGLYSEIFFIILLTIDRYLAIVHAVFALRARTVTFGVITSI 155  
 |||||  
 Db 115 TGLYSEIFFIILLTIDRYLAIVHAVFALRARTVTFGVITSI 155

#### SUMMARIES

| Result No. | Score | % Match | Query Length | DB | ID     | Description        |
|------------|-------|---------|--------------|----|--------|--------------------|
| 1          | 308   | 86.8    | 355          | 2  | G02436 | chemokine (C-C) re |
| 2          | 41    | 11.5    | 355          | 2  | A45177 | chemokine (C-C) re |
| 3          | 33    | 9.3     | 355          | 2  | I49339 | macrophage inflamm |
| 4          | 33    | 9.3     | 359          | 2  | I49341 | MIP-1 alpha recept |
| 5          | 22    | 6.2     | 360          | 2  | JC2443 | chemokine (C-C) re |
| 6          | 22    | 6.2     | 374          | 2  | I38450 | chemokine (C-C) re |
| 7          | 16    | 4.5     | 383          | 2  | S55594 | G protein-coupled  |
| 8          | 14    | 3.9     | 352          | 2  | A43113 | chemokine (C-C) re |
| 9          | 12    | 3.4     | 356          | 2  | I49340 | MIP-1 alpha recept |
| 10         | 12    | 3.4     | 360          | 2  | A57160 | chemokine (C-C) re |
| 11         | 12    | 3.4     | 360          | 2  | JC4587 | chemokine (C-C) re |
| 12         | 10    | 2.8     | 308          | 2  | I50241 | G protein-coupled  |

RESULT 9  
 I49340  
 MIP-1 alpha receptor like-1 - mouse  
 C;Species: Mus musculus (house mouse)  
 C;Date: 02-Jul-1996 #sequence\_revision 02-Jul-1996 #text\_change 13-Aug-1999  
 C;Accession: I49340  
 R;Gao, J.L.; Murphy, P.M.  
 J. Biol. Chem. 270, 17494-17501, 1995  
 A;Title: Cloning and differential tissue-specific expression of three mouse beta chemokine receptor-like genes, including the gene for a functional macrophage inflammatory protein-1 alpha receptor.

A;Reference number: I49339; MUID:95340546  
A;Accession: I49340  
A;Status: preliminary; translated from GB/EMBL/DDBJ  
A;Molecule type: DNA  
A;Residues: 1-356 <RES>  
A;Cross-references: EMBL:U28405; NID:g881549; PIDN:AAA89154.1; PID:g881550  
C;Superfamily: vertebrate rhodopsin

Query Match 3.4%; Score 12; DB 2; Length 356;  
Best Local Similarity 100.0%; Pred. No. 0.00064;  
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 139 VFALRARTVTFG 150  
|||||||  
Db 140 VFALRARTVTFG 151

RESULT 10  
A57160  
chemokine (C-C) receptor 4 - human  
N;Alternate names: C-C CKR-4  
C;Species: Homo sapiens (man)  
C;Date: 10-Nov-1995 #sequence\_revision 10-Nov-1995 #text\_change 21-Jul-2000  
C;Accession: A57160  
R;Power, C.A.; Meyer, A.; Nemeth, K.; Bacon, K.B.; Hoogewerf, A.J.; Proudfoot, A.E.I.; Wells, T.N.C.  
J. Biol. Chem. 270, 19495-19500, 1995  
A;Title: Molecular cloning and functional expression of a novel CC chemokine receptor cDNA from a human basophilic cell line.  
A;Reference number: A57160; MUID:95370289  
A;Accession: A57160  
A;Status: preliminary; not compared with conceptual translation  
A;Molecule type: mRNA  
A;Residues: 1-360 <POW>  
A;Cross-references: GB:X85740; NID:g1370103; PIDN:CAA59743.1; PID:g971452  
A;Note: source clone K5-5  
C;Genetics:  
A;Gene: GDB:CMKBR4  
A;Cross-references: GDB:677463  
A;Map position: 3p21-3p21  
C;Superfamily: vertebrate rhodopsin  
C;Keywords: G protein-coupled receptor; glycoprotein; phosphoprotein; transmembrane protein  
F;40-65/Domain: transmembrane #status predicted <TM1>  
F;76-97/Domain: transmembrane #status predicted <TM2>  
F;112-133/Domain: transmembrane #status predicted <TM3>  
F;151-175/Domain: transmembrane #status predicted <TM4>  
F;208-226/Domain: transmembrane #status predicted <TM5>  
F;243-264/Domain: transmembrane #status predicted <TM6>  
F;291-308/Domain: transmembrane #status predicted <TM7>  
F;29-276,110-187/Disulfide bonds: #status predicted  
F;72,350/Binding site: phosphate (Ser) (covalent) (by casein kinase II) #status predicted  
F;145/Binding site: phosphate (Ser) (covalent) (by protein kinase C) #status predicted  
F;183,194/Binding site: carbohydrate (Asn) (covalent) #status predicted  
F;321/Binding site: phosphate (Thr) (covalent) (by protein kinase C) #status predicted

Query Match 3.4%; Score 12; DB 2; Length 360;  
Best Local Similarity 100.0%; Pred. No. 0.00065;  
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 72 YLLNLAISDLLF 83  
|||||||  
Db 77 YLLNLAISDLLF 88

SEQ ID NO: 6

| %      |       |       |        |    |          |                    |
|--------|-------|-------|--------|----|----------|--------------------|
| Result | Query |       |        |    |          |                    |
| No.    | Score | Match | Length | DB | ID       | Description        |
| 1      | 343   | 96.6  | 355    | 17 | AAW03378 | CC-chemokine recep |
| 2      | 343   | 96.6  | 355    | 19 | AAW51746 | Human C-C chemokin |
| 3      | 181   | 51.0  | 355    | 17 | AAW03376 | CC-chemokine recep |
| 4      | 181   | 51.0  | 355    | 17 | AAW03377 | CC-chemokine recep |
| 5      | 181   | 51.0  | 355    | 18 | AAW31850 | Human eosinophil e |
| 6      | 181   | 51.0  | 355    | 18 | AAW27124 | Human chemokine re |
| 7      | 181   | 51.0  | 355    | 18 | AAW10100 | Human C-C chemokin |
| 8      | 181   | 51.0  | 355    | 19 | AAW51745 | Human C-C chemokin |
| 9      | 181   | 51.0  | 355    | 22 | ABB56341 | Non-endogenous hum |
| 10     | 181   | 51.0  | 355    | 22 | AAG80109 | Human CCR3 protein |
| 11     | 181   | 51.0  | 356    | 18 | AAW25943 | Human CCKR3 chemok |
| 12     | 134   | 37.7  | 355    | 19 | AAW51744 | Human C-C chemokin |
| 13     | 41    | 11.5  | 295    | 22 | AAG80106 | Human CCR1 protein |
| 14     | 41    | 11.5  | 355    | 15 | AAR52749 | C-C chemokine rece |
| 15     | 41    | 11.5  | 355    | 18 | AAW26588 | Human MIP-1 alpha/ |
| 16     | 41    | 11.5  | 355    | 18 | AAW25751 | Human MIP-1alpha/R |
| 17     | 41    | 11.5  | 355    | 21 | AAB20571 | Human CC-chemokine |
| 18     | 34    | 9.6   | 34     | 22 | AAG80053 | Chemokine peptide  |
| 19     | 31    | 8.7   | 31     | 16 | AAR79170 | End of third trans |

# RESULT 14

AAR52749

ID AAR52749 standard; Protein; 355 AA.

XX

AC AAR52749;

XX

DT 30-JAN-1995 (first entry)

XX

DE C-C chemokine receptor.

XX

KW C-C CKR-1; cytokine; inflammation.

XX

OS Homo sapiens.

XX

PN WO9411504-A.

XX

PD 26-MAY-1994.

XX

PF 04-NOV-1993; 93WO-US10672.

XX

PR 10-NOV-1992; 92US-0974025.

XX

PA (GETH ) GENENTECH INC.

XX

PI Horuk R, Neote K, Schall T;

XX

DR WPI; 1994-183505/22.

DR

N-PSDB; AAQ62695.

XX

PT New C-C chemokine receptor and nucleic acid - are used to develop

PT prods. for use in diagnosis and therapy of inflammation and other

PT cytokine-mediated disorders

XX

PS Claim 1; Fig 9; 90pp; English.

XX

CC The sequence is that of the C-C chemokine receptor. The sequence can

CC be used in therapeutic or diagnostic compsns. for inflammation and

CC other cytokine mediated disorders.

CC

See also AAR52750-2.

XX

SQ Sequence 355 AA;

Query Match 11.5%; Score 41; DB 15; Length 355;  
Best Local Similarity 100.0%; Pred. No. 2.1e-32;  
Matches 41; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 115 TGLYSEIFFIILLTIDRYLAIVHAVFALRARTVTFGVITSI 155  
|||||  
Db 115 tglyseiffiilltidrylaivhavfalrartvtfgvitsi 155

RESULT 15

AAW26588

ID AAW26588 standard; Protein; 355 AA.

XX

AC AAW26588;

XX

DT 21-JAN-1998 (first entry)

XX

DE Human MIP-1 alpha/RANTES receptor.

XX

KW Macrophage inflammatory protein-1 alpha; MIP-1 alpha;

KW reduced upon activation normal T expressed and secreted; RANTES;

KW receptor; cytokine; antiinflammatory; inflammation; human.

XX

OS Homo sapiens.

XX

PN US5652133-A.

XX

PD 29-JUL-1997.

XX

PF 28-JAN-1993; 93US-0012988.

XX

PR 28-JAN-1993; 93US-0012988.

XX

PA (USSH ) US DEPT HEALTH & HUMAN SERVICES.

XX

PI Murphy PM;

XX

DR WPI; 1997-392945/36.

DR N-PSDB; AAT90384.

XX

PT MIP-1-alpha and RANTES receptor nucleic acid - used to develop

PT products for the detection of these cytokine(s) and their receptors,

PT particularly in inflammatory processes

XX

PS Claim 2; Column 15-18; 12pp; English.

XX

CC This polypeptide comprises a claimed receptor for human macrophage  
CC inflammatory protein-1 alpha (MIP-1 alpha) and regulated upon  
CC activation normal T expressed and secreted (RANTES) protein. Also  
CC claimed are: a nucleic acid (see AAT90384) that encodes the receptor;  
CC a subsequence of the nucleic acid, having at least 12 contiguous  
CC nucleotides; a cell transformed or transfected with the nucleic  
CC acid; and purified MIP-1 alpha/RANTES receptor polypeptide. The  
CC products can be used for detecting the MIP-1 alpha/RANTES receptor  
CC and polymorphisms in physiological samples. In addition, the  
CC receptor can be expressed and used to assay for MIP-1a/RANTES in  
CC biological samples. The quantitation of MIP-1 alpha/RANTES is  
CC useful for monitoring the levels of these cytokines in a patient.  
CC Such measurements are useful in following the antiinflammatory  
CC effects of drugs and prospective usefulness of new antiinflammatory  
CC agents.

XX

SQ Sequence 355 AA;

Query Match 11.5%; Score 41; DB 18; Length 355;  
Best Local Similarity 100.0%; Pred. No. 2.1e-32;  
Matches 41; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 115 TGLYSEIFFIILLTIDRYLAIVHAVFALRARTVTFGVITSI 155  
 ||||||||||||||||||||||||||||||||||||||||  
 Db 115 tglyseiffiilltidrylaivhavfalrartvtfgvitsi 155

# SUMMARIES

| Result | No. | Score | Query Match | Length | DB | ID                | Description       |
|--------|-----|-------|-------------|--------|----|-------------------|-------------------|
|        | 1   | 181   | 51.0        | 355    | 4  | US-08-575-967A-4  | Sequence 4, Appli |
|        | 2   | 181   | 51.0        | 355    | 4  | US-08-847-296B-1  | Sequence 1, Appli |
|        | 3   | 181   | 51.0        | 355    | 4  | US-09-045-583-54  | Sequence 54, Appl |
|        | 4   | 41    | 11.5        | 355    | 1  | US-08-012-988A-2  | Sequence 2, Appli |
|        | 5   | 41    | 11.5        | 355    | 1  | US-08-450-393A-5  | Sequence 5, Appli |
|        | 6   | 41    | 11.5        | 355    | 4  | US-08-446-669-5   | Sequence 5, Appli |
|        | 7   | 41    | 11.5        | 355    | 4  | US-09-045-583-53  | Sequence 53, Appl |
|        | 8   | 41    | 11.5        | 355    | 4  | US-09-239-938-1   | Sequence 1, Appli |
|        | 9   | 41    | 11.5        | 355    | 5  | PCT-US95-00476-5  | Sequence 5, Appli |
|        | 10  | 31    | 8.7         | 31     | 1  | US-08-450-393A-14 | Sequence 14, Appl |
|        | 11  | 31    | 8.7         | 31     | 4  | US-08-446-669-14  | Sequence 14, Appl |
|        | 12  | 31    | 8.7         | 31     | 5  | PCT-US95-00476-14 | Sequence 14, Appl |
|        | 13  | 22    | 6.2         | 31     | 1  | US-08-450-393A-13 | Sequence 13, Appl |
|        | 14  | 22    | 6.2         | 31     | 4  | US-08-446-669-13  | Sequence 13, Appl |
|        | 15  | 22    | 6.2         | 31     | 5  | PCT-US95-00476-13 | Sequence 13, Appl |
|        | 16  | 22    | 6.2         | 344    | 3  | US-08-466-343D-9  | Sequence 9, Appli |
|        | 17  | 22    | 6.2         | 347    | 1  | US-08-461-244-3   | Sequence 3, Appli |
|        | 18  | 22    | 6.2         | 352    | 3  | US-08-466-343D-2  | Sequence 2, Appli |
|        | 19  | 22    | 6.2         | 352    | 4  | US-09-045-583-52  | Sequence 52, Appl |
|        | 20  | 22    | 6.2         | 360    | 1  | US-08-450-393A-4  | Sequence 4, Appli |

## RESULT 4

US-08-012-988A-2

; Sequence 2, Application US/08012988A

; Patent No. 5652133

; GENERAL INFORMATION:

; APPLICANT: Murphy, Philip M.

; TITLE OF INVENTION: Cloning and Expression of Human

; TITLE OF INVENTION: Macrophage Inflammatory Protein-1 alpha (MIP-1

; TITLE OF INVENTION: alpha)/RANTES Receptor

; NUMBER OF SEQUENCES: 2

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: Townsend and Townsend Kourie and Crew

; STREET: One Market Plaza, Steuart Tower, Suite 2000

; CITY: San Francisco

; STATE: California

; COUNTRY: USA

; ZIP: 94610

; COMPUTER READABLE FORM:

; MEDIUM TYPE: Floppy disk

; COMPUTER: IBM PC compatible

; OPERATING SYSTEM: PC-DOS/MS-DOS

; SOFTWARE: PatentIn Release #1.0, Version #1.25

; CURRENT APPLICATION DATA:

; APPLICATION NUMBER: US/08/012,988A

; FILING DATE: 19930128

; CLASSIFICATION: 435

; ATTORNEY/AGENT INFORMATION:

; NAME: Weber,, Kenneth A.

; REGISTRATION NUMBER: 31,677

; REFERENCE/DOCKET NUMBER: 15280-118

; TELECOMMUNICATION INFORMATION:

; TELEPHONE: 415-543-9600

; TELEFAX: 415-543-5043

; INFORMATION FOR SEQ ID NO: 2:

; SEQUENCE CHARACTERISTICS:

; LENGTH: 355 amino acids

; TYPE: AMINO ACID



; TOPOLOGY: linear  
; MOLECULE TYPE: protein  
US-08-012-988A-2

Query Match 11.5%; Score 41; DB 1; Length 355;  
Best Local Similarity 100.0%; Pred. No. 3.7e-31;  
Matches 41; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 115 TGLYSEIFFIILLTIDRYLAIVHAVFALRARTVTFGVITSI 155  
|||||  
Db 115 TGLYSEIFFIILLTIDRYLAIVHAVFALRARTVTFGVITSI 155

RESULT 5  
US-08-450-393A-5  
; Sequence 5, Application US/08450393A  
; Patent No. 5707815  
; GENERAL INFORMATION:  
; APPLICANT: Charo, Israel  
; APPLICANT: Coughlin, Shaun  
; TITLE OF INVENTION: MAMMALIAN MONOCYTE CHEMOATTRACTANT  
; TITLE OF INVENTION: PROTEIN RECEPTORS  
; NUMBER OF SEQUENCES: 14  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Cooley Godward Castro Huddleson & Tatum  
; STREET: 5 Palo Alto Square  
; CITY: Palo Alto  
; STATE: California  
; COUNTRY: USA  
; ZIP: 94306-2155  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: PatentIn Release #1.0, Version #1.25  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/450,393A  
; FILING DATE: May 25, 1995  
; CLASSIFICATION: 424  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Cserr, Luann  
; REGISTRATION NUMBER: 31,822  
; REFERENCE/DOCKET NUMBER: UCAL-237/02US  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: 415-843-5165  
; TELEFAX: 415-8857-0663  
; TELEX: 380816CooleyPA  
; INFORMATION FOR SEQ ID NO: 5:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 355 amino acids  
; TYPE: amino acid  
; TOPOLOGY: linear  
; MOLECULE TYPE: protein  
; HYPOTHETICAL: NO  
; ANTI-SENSE: NO  
US-08-450-393A-5

Query Match 11.5%; Score 41; DB 1; Length 355;  
Best Local Similarity 100.0%; Pred. No. 3.7e-31;  
Matches 41; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 115 TGLYSEIFFIILLTIDRYLAIVHAVFALRARTVTFGVITSI 155  
|||||  
Db 115 TGLYSEIFFIILLTIDRYLAIVHAVFALRARTVTFGVITSI 155

RESULT 12  
 PCT-US95-00476-14  
 ; Sequence 14, Application PC/TUS9500476  
 ; GENERAL INFORMATION:  
 ; APPLICANT: The Regents of the University of California  
 ; TITLE OF INVENTION: MAMMALIAN MONOCYTE CHEMOATTRACTANT  
 ; TITLE OF INVENTION: PROTEIN RECEPTORS  
 ; NUMBER OF SEQUENCES: 14  
 ; CORRESPONDENCE ADDRESS:  
 ; ADDRESSEE: Robbins, Berliner & Carson  
 ; STREET: 201 N. Figueroa Street, 5th Floor  
 ; CITY: Los Angeles  
 ; STATE: California  
 ; COUNTRY: USA  
 ; ZIP: 90012-2628  
 ; COMPUTER READABLE FORM:  
 ; MEDIUM TYPE: Floppy disk  
 ; COMPUTER: IBM PC compatible  
 ; OPERATING SYSTEM: PC-DOS/MS-DOS  
 ; SOFTWARE: PatentIn Release #1.0, Version #1.25  
 ; CURRENT APPLICATION DATA:  
 ; APPLICATION NUMBER: PCT/US95/00476  
 ; FILING DATE:  
 ; CLASSIFICATION:  
 ; ATTORNEY/AGENT INFORMATION:  
 ; NAME: Berliner, Robert  
 ; REGISTRATION NUMBER: 20,121  
 ; REFERENCE/DOCKET NUMBER: 5555-291  
 ; TELECOMMUNICATION INFORMATION:  
 ; TELEPHONE: 310-977-1001  
 ; TELEFAX: 310-977-1003  
 ; TELEX:  
 ; INFORMATION FOR SEQ ID NO: 14:  
 ; SEQUENCE CHARACTERISTICS:  
 ; LENGTH: 31 amino acids  
 ; TYPE: amino acid  
 ; TOPOLOGY: linear  
 ; MOLECULE TYPE: peptide  
 PCT-US95-00476-14

Query Match 8.7%; Score 31; DB 5; Length 31;  
 Best Local Similarity 100.0%; Pred. No. 1.3e-22;  
 Matches 31; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 121 IFFIILLTIDRYLAIVHAVFALRARTVTFGV 151  
 |||||  
 Db 1 IFFIILLTIDRYLAIVHAVFALRARTVTFGV 31

#### SUMMARIES

| Result No. | % Query |       | Length | DB | ID         | Description        |
|------------|---------|-------|--------|----|------------|--------------------|
|            | Score   | Match |        |    |            |                    |
| 1          | 181     | 51.0  | 355    | 1  | CKR3_HUMAN | P51677 homo sapien |
| 2          | 64      | 18.0  | 355    | 1  | CKR3_MACMU | P56483 macaca mula |
| 3          | 55      | 15.5  | 355    | 1  | CKR3_CERAE | P56492 cercopithec |
| 4          | 41      | 11.5  | 355    | 1  | CKR1_HUMAN | P32246 homo sapien |
| 5          | 41      | 11.5  | 355    | 1  | CKR1_MACMU | P56482 macaca mula |
| 6          | 33      | 9.3   | 355    | 1  | CKR1_MOUSE | P51675 mus musculu |
| 7          | 33      | 9.3   | 359    | 1  | CKR3_MOUSE | P51678 mus musculu |
| 8          | 29      | 8.2   | 358    | 1  | CKR3_CAVPO | Q922i3 cavia porce |
| 9          | 23      | 6.5   | 359    | 1  | CKR3_RAT   | O54814 rattus norv |
| 10         | 22      | 6.2   | 352    | 1  | CKR5_CERAE | P56493 cercopithec |
| 11         | 22      | 6.2   | 352    | 1  | CKR5_CERTO | O62743 cercocobus  |
| 12         | 22      | 6.2   | 352    | 1  | CKR5_GORGO | P56439 gorilla gor |
| 13         | 22      | 6.2   | 352    | 1  | CKR5_HYLLE | O97883 hylobates l |
| 14         | 22      | 6.2   | 352    | 1  | CKR5_MACMU | P79436 macaca mula |

RESULT 4

CKR1\_HUMAN

ID CKR1\_HUMAN STANDARD; PRT; 355 AA.

AC P32246;

DT 01-OCT-1993 (Rel. 27, Created)

DT 01-OCT-1993 (Rel. 27, Last sequence update)

DT 16-OCT-2001 (Rel. 40, Last annotation update)

DE C-C chemokine receptor type 1 (C-C CKR-1) (CC-CKR-1) (CCR-1) (CCR1)

DE (Macrophage inflammatory protein-1 alpha receptor) (MIP-1alpha-R)

DE (RANTES-R) (HM145) (LD78 receptor).

GN CCR1 OR CMKBR1 OR CMKR1.

OS Homo sapiens (Human).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

OX NCBI\_TaxID=9606;

RN [1]

RP SEQUENCE FROM N.A.

RX MEDLINE=93161416; PubMed=7679328;

RA Neote K., Digregorio D., Mak J.Y., Horuk R., Schall T.J.;

RT "Molecular cloning, functional expression, and signaling

RT characteristics of a C-C chemokine receptor.";

RL Cell 72:415-425(1993).

RN [2]

RP SEQUENCE FROM N.A.

RX MEDLINE=93240122; PubMed=7683036;

RA Gao J.-L., Kuhns D., Tiffany H.L., McDermott D., Li X., Francke U.,

RA Murphy P.M.;

RT "Structure and functional expression of the human macrophage

RT inflammatory protein 1 alpha/RANTES receptor.";

RL J. Exp. Med. 177:1421-1427(1993).

RN [3]

RP SEQUENCE FROM N.A.

RC TISSUE=Monocytes;

RX MEDLINE=94092629; PubMed=7505609;

RA Nomura H., Nielsen B.W., Matsushima K.;

RT "Molecular cloning of cDNAs encoding a LD78 receptor and putative

RT leukocyte chemotactic peptide receptors.";

RL Int. Immunol. 5:1239-1249(1993).

CC -!- FUNCTION: RECEPTOR FOR A C-C TYPE CHEMOKINE. BINDS TO MIP-1-ALPHA,

CC MIP-1 DELTA, RANTES, AND MCP-3 AND, LESS EFFICIENTLY, TO MIP-1-

CC BETA OR MCP-1 AND SUBSEQUENTLY TRANSDUCES A SIGNAL BY INCREASING

CC THE INTRACELLULAR CALCIUM IONS LEVEL. RESPONSIBLE FOR AFFECTING

CC STEM CELL PROLIFERATION.

CC -!- SUBCELLULAR LOCATION: Integral membrane protein.

CC -!- TISSUE SPECIFICITY: WIDELY EXPRESSED IN DIFFERENT HEMATOPOIETIC

CC CELLS.

CC -!- SIMILARITY: BELONGS TO FAMILY 1 OF G-PROTEIN COUPLED RECEPTORS.

CC -----

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CC or send an email to [license@isb-sib.ch](mailto:license@isb-sib.ch)).

CC -----

DR EMBL; L09230; AAA58408.1; -.

DR EMBL; L10918; AAA36543.1; -.

DR EMBL; D10925; BAA01723.1; -.

DR PIR; A45177; A45177.

DR GCRDb; GCR\_0498; -.

DR GCRDb; GCR\_0557; -.

DR GCRDb; GCR\_0573; -.

DR MIM; 601159; -.

DR InterPro; IPR000276; GPCR\_Rhodpsn.

DR Pfam; PF00001; 7tm\_1; 1.

DR PRINTS; PR00237; GPCRRHODOPSN.

DR PROSITE; PS00237; G\_PROTEIN\_RECEP\_F1\_1; 1.

DR PROSITE; PS50262; G\_PROTEIN\_RECEP\_F1\_2; 1.

KW G-protein coupled receptor; Transmembrane; Glycoprotein.

|    |          |                                           |     |                                     |
|----|----------|-------------------------------------------|-----|-------------------------------------|
| FT | DOMAIN   | 1                                         | 34  | EXTRACELLULAR (POTENTIAL).          |
| FT | TRANSMEM | 35                                        | 60  | 1 (POTENTIAL).                      |
| FT | DOMAIN   | 61                                        | 64  | CYTOPLASMIC (POTENTIAL).            |
| FT | TRANSMEM | 65                                        | 91  | 2 (POTENTIAL).                      |
| FT | DOMAIN   | 92                                        | 107 | EXTRACELLULAR (POTENTIAL).          |
| FT | TRANSMEM | 108                                       | 129 | 3 (POTENTIAL).                      |
| FT | DOMAIN   | 130                                       | 146 | CYTOPLASMIC (POTENTIAL).            |
| FT | TRANSMEM | 147                                       | 171 | 4 (POTENTIAL).                      |
| FT | DOMAIN   | 172                                       | 197 | EXTRACELLULAR (POTENTIAL).          |
| FT | TRANSMEM | 198                                       | 223 | 5 (POTENTIAL).                      |
| FT | DOMAIN   | 224                                       | 239 | CYTOPLASMIC (POTENTIAL).            |
| FT | TRANSMEM | 240                                       | 264 | 6 (POTENTIAL).                      |
| FT | DOMAIN   | 265                                       | 281 | EXTRACELLULAR (POTENTIAL).          |
| FT | TRANSMEM | 282                                       | 305 | 7 (POTENTIAL).                      |
| FT | DOMAIN   | 306                                       | 355 | CYTOPLASMIC (POTENTIAL).            |
| FT | CARBOHYD | 5                                         | 5   | N-LINKED (GLCNAC. . .) (POTENTIAL). |
| FT | DISULFID | 106                                       | 183 | BY SIMILARITY.                      |
| FT | CONFLICT | 337                                       | 337 | E -> D (IN REF. 3).                 |
| SQ | SEQUENCE | 355 AA; 41172 MW; B2C100FFED275985 CRC64; |     |                                     |

Query Match 11.5%; Score 41; DB 1; Length 355;  
 Best Local Similarity 100.0%; Pred. No. 4.2e-31;  
 Matches 41; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 115 TGLYSEIFFIILLTIDRYLAIVHAVFALRARTVTFGVITSI 155  
 |||||  
 Db 115 TGLYSEIFFIILLTIDRYLAIVHAVFALRARTVTFGVITSI 155

RESULT 7  
 CKR3\_MOUSE  
 ID CKR3\_MOUSE STANDARD; PRT; 359 AA.  
 AC P51678;  
 DT 01-OCT-1996 (Rel. 34, Created)  
 DT 01-OCT-1996 (Rel. 34, Last sequence update)  
 DT 30-MAY-2000 (Rel. 39, Last annotation update)  
 DE Probable C-C chemokine receptor type 3 (C-C CKR-3) (CC-CKR-3) (CCR-3)  
 DE (CCR3) (CKR3) (Macrophage inflammatory protein-1 alpha receptor-like  
 DE 2) (MIP-1 alpha RL2).  
 GN CCR3 OR CMKBR3 OR CMKBR1L2.  
 OS Mus musculus (Mouse).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.  
 OX NCBI\_TaxID=10090;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=129/SV;  
 RX MEDLINE=96072806; PubMed=7594543;  
 RA Post T.W., Bozic C.R., Rothenberg M.E., Luster A.D., Gerard N.,  
 RA Gerard C.;  
 RT "Molecular characterization of two murine eosinophil beta chemokine  
 RT receptors";  
 RL J. Immunol. 155:5299-5305(1995).  
 RN [2]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=129/SVJ;  
 RX MEDLINE=95340546; PubMed=7542241;  
 RA Gao J.-L., Murphy P.M.;  
 RT "Cloning and differential tissue-specific expression of three mouse  
 RT beta chemokine receptor-like genes, including the gene for a  
 RT functional macrophage inflammatory protein-1 alpha receptor.";  
 RL J. Biol. Chem. 270:17494-17501(1995).  
 CC -!- FUNCTION: RECEPTOR FOR A C-C TYPE CHEMOKINE. BINDS TO EOTAXIN,  
 CC MCP-3, MCP-4 AND RANTES AND SUBSEQUENTLY TRANSDUCES A SIGNAL BY  
 CC INCREASING THE INTRACELLULAR CALCIUM IONS LEVEL.  
 CC -!- SUBCELLULAR LOCATION: Integral membrane protein.  
 CC -!- TISSUE SPECIFICITY: DETECTED IN SKELETAL MUSCLE AND IN TRACE  
 CC AMOUNTS IN LEUKOCYTES.  
 CC -!- SIMILARITY: BELONGS TO FAMILY 1 OF G-PROTEIN COUPLED RECEPTORS.

```

CC -----
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CC modified and this statement is not removed. Usage by and for commercial
CC entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL; U29677; AAA86118.1; -.
DR EMBL; U28406; AAA89155.1; -.
DR GCRDb; GCR_1673; -.
DR GCRDb; GCR_1695; -.
DR MGD; MGI:104616; Cmkbr112.
DR InterPro; IPR000276; GPCR_Rhodpsn.
DR Pfam; PF00001; 7tm_1; 1.
DR PRINTS; PR00237; GPCRRHODOPSN.
DR PROSITE; PS00237; G_PROTEIN_RECEP_F1_1; 1.
DR PROSITE; PS50262; G_PROTEIN_RECEP_F1_2; 1.
KW G-protein coupled receptor; Transmembrane.
FT DOMAIN 1 38 EXTRACELLULAR (POTENTIAL).
FT TRANSMEM 39 64 1 (POTENTIAL).
FT DOMAIN 65 68 CYTOPLASMIC (POTENTIAL).
FT TRANSMEM 69 95 2 (POTENTIAL).
FT DOMAIN 96 111 EXTRACELLULAR (POTENTIAL).
FT TRANSMEM 112 133 3 (POTENTIAL).
FT DOMAIN 134 150 CYTOPLASMIC (POTENTIAL).
FT TRANSMEM 151 175 4 (POTENTIAL).
FT DOMAIN 176 201 EXTRACELLULAR (POTENTIAL).
FT TRANSMEM 202 227 5 (POTENTIAL).
FT DOMAIN 228 243 CYTOPLASMIC (POTENTIAL).
FT TRANSMEM 244 268 6 (POTENTIAL).
FT DOMAIN 269 285 EXTRACELLULAR (POTENTIAL).
FT TRANSMEM 286 309 7 (POTENTIAL).
FT DOMAIN 310 359 CYTOPLASMIC (POTENTIAL).
FT DISULFID 110 187 BY SIMILARITY.
FT CONFLICT 270 270 R -> S (IN REF. 2).
SQ SEQUENCE 359 AA; 41825 MW; AC11ED66E283CEAF CRC64;

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Query Match 9.3%; Score 33; DB 1; Length 359;  
 Best Local Similarity 100.0%; Pred. No. 1.6e-23;  
 Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy 117 LYSEIFFIILLTIDRYLAIVHAVFALRARTVTF 149
    |||||
Db 121 LYSEIFFIILLTIDRYLAIVHAVFALRARTVTF 153

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#### SUMMARIES

| Result | Query |       |       |        |        | Description         |
|--------|-------|-------|-------|--------|--------|---------------------|
|        | No.   | Score | Match | Length | ID     |                     |
| 1      | 72    | 20.3  | 72    | 4      | Q96T96 | Q96t96 homo sapien  |
| 2      | 56    | 15.8  | 56    | 4      | Q96T97 | Q96t97 homo sapien  |
| 3      | 51    | 14.4  | 355   | 6      | Q9BDS8 | Q9bds8 macaca fasc  |
| 4      | 41    | 11.5  | 355   | 6      | Q9MYJ8 | Q9myj8 callithrix   |
| 5      | 35    | 9.9   | 355   | 11     | Q91VP9 | Q91vp9 mus musculus |
| 6      | 35    | 9.9   | 358   | 6      | Q9NOM0 | Q9n0m0 ovis aries   |
| 7      | 26    | 7.3   | 351   | 6      | Q9MYJ9 | Q9myj9 oryctolagus  |
| 8      | 25    | 7.0   | 355   | 11     | Q9JLY8 | Q9jly8 rattus norv  |
| 9      | 22    | 6.2   | 316   | 6      | Q9TUV7 | Q9tuv7 saguinus sp  |
| 10     | 22    | 6.2   | 334   | 6      | Q9TUQ7 | Q9tuq7 erythrocebu  |
| 11     | 22    | 6.2   | 339   | 6      | Q9TQX3 | Q9tqx3 mandrillus   |
| 12     | 22    | 6.2   | 339   | 6      | Q9TQX2 | Q9tqx2 erythrocebu  |
| 13     | 22    | 6.2   | 339   | 6      | Q9TQW4 | Q9tqw4 pan troglod  |
| 14     | 22    | 6.2   | 339   | 6      | Q9TQW2 | Q9tqw2 pongo pygma  |
| 15     | 22    | 6.2   | 339   | 6      | Q9TQW0 | Q9tqw0 hylobates c  |

|    |    |     |     |   |        |
|----|----|-----|-----|---|--------|
| 16 | 22 | 6.2 | 339 | 6 | Q9TQV6 |
| 17 | 22 | 6.2 | 339 | 6 | Q9TQV5 |
| 18 | 22 | 6.2 | 339 | 6 | Q9TQV3 |

|        |             |     |
|--------|-------------|-----|
| Q9tqv6 | colobus     | gue |
| Q9tqv5 | saguinus    | sp  |
| Q9tqv3 | cercopithec |     |

|    |    |     |     |   |        |                    |
|----|----|-----|-----|---|--------|--------------------|
| 16 | 22 | 6.2 | 339 | 6 | Q9TQV6 | Q9tqv6 colobus gue |
| 17 | 22 | 6.2 | 339 | 6 | Q9TQV5 | Q9tqv5 saguinus sp |
| 18 | 22 | 6.2 | 339 | 6 | Q9TQV3 | Q9tqv3 cercopithec |

SEQ ID NO: 4

# SUMMARIES

| Result No. | Score | % Match | Query Length | DB | ID       | Description        |
|------------|-------|---------|--------------|----|----------|--------------------|
| 1          | 355   | 100.0   | 355          | 17 | AAW03377 | CC-chemokine recep |
| 2          | 355   | 100.0   | 355          | 18 | AAW31850 | Human eosinophil e |
| 3          | 355   | 100.0   | 355          | 18 | AAW27124 | Human chemokine re |
| 4          | 355   | 100.0   | 355          | 19 | AAW51745 | Human C-C chemokin |
| 5          | 355   | 100.0   | 355          | 22 | AAG80109 | Human CCR3 protein |
| 6          | 281   | 79.2    | 356          | 18 | AAW25943 | Human CCKR3 chemok |
| 7          | 275   | 77.5    | 355          | 17 | AAW03376 | CC-chemokine recep |
| 8          | 275   | 77.5    | 355          | 18 | AAW10100 | Human C-C chemokin |
| 9          | 254   | 71.5    | 355          | 22 | ABB56341 | Non-endogenous hum |
| 10         | 228   | 64.2    | 355          | 19 | AAW51744 | Human C-C chemokin |
| 11         | 181   | 51.0    | 355          | 17 | AAW03378 | CC-chemokine recep |
| 12         | 181   | 51.0    | 355          | 19 | AAW51746 | Human C-C chemokin |
| 13         | 41    | 11.5    | 295          | 22 | AAG80106 | Human CCR1 protein |
| 14         | 41    | 11.5    | 355          | 15 | AAR52749 | C-C chemokine rece |
| 15         | 41    | 11.5    | 355          | 18 | AAW26588 | Human MIP-1 alpha/ |
| 16         | 41    | 11.5    | 355          | 18 | AAW25751 | Human MIP-1alpha/R |
| 17         | 41    | 11.5    | 355          | 21 | AAB20571 | Human CC-chemokine |
| 18         | 34    | 9.6     | 34           | 22 | AAG80053 | Chemokine peptide  |
| 19         | 32    | 9.0     | 32           | 22 | AAG80082 | Chemokine CCR3 ext |
| 20         | 31    | 8.7     | 31           | 16 | AAR79170 | End of third trans |
| 21         | 27    | 7.6     | 28           | 20 | AAV39255 | G-protein coupled  |
| 22         | 26    | 7.3     | 28           | 20 | AAV39256 | G-protein coupled  |

## RESULT 14

AAR52749

ID AAR52749 standard; Protein; 355 AA.

XX

AC AAR52749;

XX

DT 30-JAN-1995 (first entry)

XX

DE C-C chemokine receptor.

XX

KW C-C CKR-1; cytokine; inflammation.

XX

OS Homo sapiens.

XX

PN WO9411504-A.

XX

PD 26-MAY-1994.

XX

PF 04-NOV-1993; 93WO-US10672.

XX

PR 10-NOV-1992; 92US-0974025.

XX

PA (GETH ) GENENTECH INC.

XX

PI Horuk R, Neote K, Schall T;

XX

DR WPI; 1994-183505/22.

DR

N-PSDB; AAQ62695.

XX

PT New C-C chemokine receptor and nucleic acid - are used to develop  
PT prods. for use in diagnosis and therapy of inflammation and other  
PT cytokine-mediated disorders

XX

PS Claim 1; Fig 9; 90pp; English.

XX





SQ Sequence 355 AA;

Query Match 11.5%; Score 41; DB 18; Length 355;  
Best Local Similarity 100.0%; Pred. No. 1.2e-31;  
Matches 41; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 115 TGLYSEIFFIILLTIDRYLAIVHAVFALRARTVTFGVITSI 155  
|||||  
Db 115 tglyseiffiilltidrylaivhavfalrartvtfgvitsi 155

#### SUMMARIES

| Result<br>No. | Query |              | DB  | ID | Description                         |
|---------------|-------|--------------|-----|----|-------------------------------------|
|               | Score | Match Length |     |    |                                     |
| 1             | 355   | 100.0        | 355 | 4  | US-08-575-967A-4 Sequence 4, Appli  |
| 2             | 355   | 100.0        | 355 | 4  | US-08-847-296B-1 Sequence 1, Appli  |
| 3             | 355   | 100.0        | 355 | 4  | US-09-045-583-54 Sequence 54, Appl  |
| 4             | 41    | 11.5         | 355 | 1  | US-08-012-988A-2 Sequence 2, Appli  |
| 5             | 41    | 11.5         | 355 | 1  | US-08-450-393A-5 Sequence 5, Appli  |
| 6             | 41    | 11.5         | 355 | 4  | US-08-446-669-5 Sequence 5, Appli   |
| 7             | 41    | 11.5         | 355 | 4  | US-09-045-583-53 Sequence 53, Appl  |
| 8             | 41    | 11.5         | 355 | 4  | US-09-239-938-1 Sequence 1, Appli   |
| 9             | 41    | 11.5         | 355 | 5  | PCT-US95-00476-5 Sequence 5, Appli  |
| 10            | 31    | 8.7          | 31  | 1  | US-08-450-393A-14 Sequence 14, Appl |
| 11            | 31    | 8.7          | 31  | 4  | US-08-446-669-14 Sequence 14, Appl  |
| 12            | 31    | 8.7          | 31  | 5  | PCT-US95-00476-14 Sequence 14, Appl |
| 13            | 22    | 6.2          | 31  | 1  | US-08-450-393A-13 Sequence 13, Appl |
| 14            | 22    | 6.2          | 31  | 4  | US-08-446-669-13 Sequence 13, Appl  |
| 15            | 22    | 6.2          | 31  | 5  | PCT-US95-00476-13 Sequence 13, Appl |
| 16            | 22    | 6.2          | 344 | 3  | US-08-466-343D-9 Sequence 9, Appli  |
| 17            | 22    | 6.2          | 347 | 1  | US-08-461-244-3 Sequence 3, Appli   |
| 18            | 22    | 6.2          | 352 | 3  | US-08-466-343D-2 Sequence 2, Appli  |

#### RESULT 4

US-08-012-988A-2

; Sequence 2, Application US/08012988A

; Patent No. 5652133

; GENERAL INFORMATION:

; APPLICANT: Murphy, Philip M.

; TITLE OF INVENTION: Cloning and Expression of Human

; TITLE OF INVENTION: Macrophage Inflammatory Protein-1 alpha (MIP-1

; TITLE OF INVENTION: alpha)/RANTES Receptor

; NUMBER OF SEQUENCES: 2

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: Townsend and Townsend Kourie and Crew

; STREET: One Market Plaza, Steuart Tower, Suite 2000

; CITY: San Francisco

; STATE: California

; COUNTRY: USA

; ZIP: 94610

; COMPUTER READABLE FORM:

; MEDIUM TYPE: Floppy disk

; COMPUTER: IBM PC compatible

; OPERATING SYSTEM: PC-DOS/MS-DOS

; SOFTWARE: PatentIn Release #1.0, Version #1.25

; CURRENT APPLICATION DATA:

; APPLICATION NUMBER: US/08/012,988A

; FILING DATE: 19930128

; CLASSIFICATION: 435

; ATTORNEY/AGENT INFORMATION:

; NAME: Weber,, Kenneth A.

; REGISTRATION NUMBER: 31,677

; REFERENCE/DOCKET NUMBER: 15280-118

; TELECOMMUNICATION INFORMATION:

; TELEPHONE: 415-543-9600

; TELEFAX: 415-543-5043

; INFORMATION FOR SEQ ID NO: 2:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 355 amino acids  
; TYPE: AMINO ACID  
; TOPOLOGY: linear  
; MOLECULE TYPE: protein  
US-08-012-988A-2

Query Match 11.5%; Score 41; DB 1; Length 355;  
Best Local Similarity 100.0%; Pred. No. 6.7e-31;  
Matches 41; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 115 TGLYSEIFFIILLTIDRYLAIVHAVFALRARTVTFGVITSI 155  
|||||  
Db 115 TGLYSEIFFIILLTIDRYLAIVHAVFALRARTVTFGVITSI 155

RESULT 5  
US-08-450-393A-5  
; Sequence 5, Application US/08450393A  
; Patent No. 5707815  
; GENERAL INFORMATION:  
; APPLICANT: Charo, Israel  
; APPLICANT: Coughlin, Shaun  
; TITLE OF INVENTION: MAMMALIAN MONOCYTE CHEMOATTRACTANT  
; TITLE OF INVENTION: PROTEIN RECEPTORS  
; NUMBER OF SEQUENCES: 14  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Cooley Godward Castro Huddleson & Tatum  
; STREET: 5 Palo Alto Square  
; CITY: Palo Alto  
; STATE: California  
; COUNTRY: USA  
; ZIP: 94306-2155  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: PatentIn Release #1.0, Version #1.25  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/450,393A  
; FILING DATE: May 25, 1995  
; CLASSIFICATION: 424  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Cserr, Luann  
; REGISTRATION NUMBER: 31,822  
; REFERENCE/DOCKET NUMBER: UCAL-237/02US  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: 415-843-5165  
; TELEFAX: 415-8857-0663  
; TELEX: 380816CooleyPA  
; INFORMATION FOR SEQ ID NO: 5:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 355 amino acids  
; TYPE: amino acid  
; TOPOLOGY: linear  
; MOLECULE TYPE: protein  
; HYPOTHETICAL: NO  
; ANTI-SENSE: NO  
US-08-450-393A-5

Query Match 11.5%; Score 41; DB 1; Length 355;  
Best Local Similarity 100.0%; Pred. No. 6.7e-31;  
Matches 41; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 115 TGLYSEIFFIILLTIDRYLAIVHAVFALRARTVTFGVITSI 155  
|||||  
Db 115 TGLYSEIFFIILLTIDRYLAIVHAVFALRARTVTFGVITSI 155

RESULT 9  
 PCT-US95-00476-5  
 ; Sequence 5, Application PC/TUS9500476  
 ; GENERAL INFORMATION:  
 ; APPLICANT: The Regents of the University of California  
 ; TITLE OF INVENTION: MAMMALIAN MONOCYTE CHEMOATTRACTANT  
 ; TITLE OF INVENTION: PROTEIN RECEPTORS  
 ; NUMBER OF SEQUENCES: 14  
 ; CORRESPONDENCE ADDRESS:  
 ; ADDRESSEE: Robbins, Berliner & Carson  
 ; STREET: 201 N. Figueroa Street, 5th Floor  
 ; CITY: Los Angeles  
 ; STATE: California  
 ; COUNTRY: USA  
 ; ZIP: 90012-2628  
 ; COMPUTER READABLE FORM:  
 ; MEDIUM TYPE: Floppy disk  
 ; COMPUTER: IBM PC compatible  
 ; OPERATING SYSTEM: PC-DOS/MS-DOS  
 ; SOFTWARE: PatentIn Release #1.0, Version #1.25  
 ; CURRENT APPLICATION DATA:  
 ; APPLICATION NUMBER: PCT/US95/00476  
 ; FILING DATE:  
 ; CLASSIFICATION:  
 ; ATTORNEY/AGENT INFORMATION:  
 ; NAME: Berliner, Robert  
 ; REGISTRATION NUMBER: 20,121  
 ; REFERENCE/DOCKET NUMBER: 5555-291  
 ; TELECOMMUNICATION INFORMATION:  
 ; TELEPHONE: 310-977-1001  
 ; TELEFAX: 310-977-1003  
 ; TELEX:  
 ; INFORMATION FOR SEQ ID NO: 5:  
 ; SEQUENCE CHARACTERISTICS:  
 ; LENGTH: 355 amino acids  
 ; TYPE: amino acid  
 ; TOPOLOGY: linear  
 ; MOLECULE TYPE: protein  
 ; HYPOTHETICAL: NO  
 ; ANTI-SENSE: NO  
 PCT-US95-00476-5

Query Match 11.5%; Score 41; DB 5; Length 355;  
 Best Local Similarity 100.0%; Pred. No. 6.7e-31;  
 Matches 41; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 115 TGLYSEIFFIILLTIDRYLAIVHAVFALRARTVTFGVITSI 155  
 |||||  
 Db 115 TGLYSEIFFIILLTIDRYLAIVHAVFALRARTVTFGVITSI 155

#### SUMMARIES

| Result No. | % Query |       |        |    |        | Description        |
|------------|---------|-------|--------|----|--------|--------------------|
|            | Score   | Match | Length | DB | ID     |                    |
| 1          | 275     | 77.5  | 355    | 2  | G02436 | chemokine (C-C) re |
| 2          | 41      | 11.5  | 355    | 2  | A45177 | chemokine (C-C) re |
| 3          | 33      | 9.3   | 355    | 2  | I49339 | macrophage inflamm |
| 4          | 33      | 9.3   | 359    | 2  | I49341 | MIP-1 alpha recept |
| 5          | 22      | 6.2   | 360    | 2  | JC2443 | chemokine (C-C) re |
| 6          | 22      | 6.2   | 374    | 2  | I38450 | chemokine (C-C) re |
| 7          | 16      | 4.5   | 383    | 2  | S55594 | G protein-coupled  |
| 8          | 14      | 3.9   | 352    | 2  | A43113 | chemokine (C-C) re |
| 9          | 12      | 3.4   | 356    | 2  | I49340 | MIP-1 alpha recept |
| 10         | 12      | 3.4   | 360    | 2  | A57160 | chemokine (C-C) re |

|    |    |     |     |   |        |                    |
|----|----|-----|-----|---|--------|--------------------|
| 11 | 12 | 3.4 | 360 | 2 | JC4587 | chemokine (C-C) re |
| 12 | 10 | 2.8 | 308 | 2 | I50241 | G protein-coupled  |
| 13 | 10 | 2.8 | 327 | 2 | S56162 | MDCR15 protein - h |
| 14 | 10 | 2.8 | 355 | 2 | JC5067 | G protein-coupled  |
| 15 | 10 | 2.8 | 372 | 2 | S26667 | G protein-coupled  |
| 16 | 10 | 2.8 | 374 | 2 | S42628 | G protein-coupled  |
| 17 | 10 | 2.8 | 374 | 2 | S32785 | G protein-coupled  |
| 18 | 9  | 2.5 | 177 | 2 | PH1372 | angiotensin II rec |
| 19 | 9  | 2.5 | 350 | 2 | A39445 | interleukin-8 rece |
| 20 | 9  | 2.5 | 352 | 2 | G00048 | fusin (LESTRA) - c |

RESULT 1

G02436

chemokine (C-C) receptor 3 - human

N;Alternate names: C-C CKR-3

C;Species: Homo sapiens (man)

C;Date: 21-Dec-1996 #sequence\_revision 06-Jun-1997 #text\_change 04-Mar-2000

C;Accession: G02436; A57237

R;Ponath, P.D.

submitted to the EMBL Data Library, February 1996

A;Reference number: H01272

A;Accession: G02436

A;Status: translated from GB/EMBL/DDBJ

A;Molecule type: DNA

A;Residues: 1-355 <PON>

A;Cross-references: EMBL:U49727; NID:g1477560; PIDN:AAB09726.1; PID:g1477561

R;Combadiere, C.; Ahuja, S.K.; Murphy, P.M.

J. Biol. Chem. 270, 16491-16494, 1995

A;Title: Cloning and functional expression of a human eosinophil CC chemokine receptor.

A;Reference number: A57237; MUID:95348056

A;Accession: A57237

A;Status: nucleic acid sequence not shown

A;Molecule type: mRNA

A;Residues: 1-106,'N',108-275,'S',277-280,'R',282-355 <COM>

A;Cross-references: GB:U28694; NID:g1199579; PIDN:AAC50469.1; PID:g1199580

A;Note: the translated sequence in GenBank entry HSU28694, release 113.0,

PIDN:AAC50469.1, differs from the published sequence in having 281-Leu

C;Genetics:

A;Gene: GDB:CMKBR3

A;Cross-references: GDB:579624; OMIM:601268

A;Map position: 3p21-3p21

C;Superfamily: vertebrate rhodopsin

C;Keywords: G protein-coupled receptor; glycoprotein; phosphoprotein; transmembrane protein

F;36-60/Domain: transmembrane #status predicted <TM1>

F;71-91/Domain: transmembrane #status predicted <TM2>

F;108-129/Domain: transmembrane #status predicted <TM3>

F;147-171/Domain: transmembrane #status predicted <TM4>

F;205-223/Domain: transmembrane #status predicted <TM5>

F;240-261/Domain: transmembrane #status predicted <TM6>

F;288-305/Domain: transmembrane #status predicted <TM7>

F;24-273,106-183/Disulfide bonds: #status predicted

F;345/Binding site: phosphate (Ser) (covalent) (by casein kinase II) #status predicted

Query Match 77.5%; Score 275; DB 2; Length 355;

Best Local Similarity 100.0%; Pred. No. 1.7e-273;

Matches 275; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

|    |    |                                                                |     |
|----|----|----------------------------------------------------------------|-----|
| Qy | 1  | MTTSLDVTVEFTGTTSSYYDDVGLLCEKADTRALMAQFVPPLYSLVFTVGLLGNNVVVMILI | 60  |
|    |    |                                                                |     |
| Db | 1  | MTTSLDVTVEFTGTTSSYYDDVGLLCEKADTRALMAQFVPPLYSLVFTVGLLGNNVVVMILI | 60  |
| Qy | 61 | KYRRLRIMTNIYLLNLAISDLLFLVTLPPFWIHYVRGHNWVFGHGMCKLLSGFYHTGLYSE  | 120 |
|    |    |                                                                |     |
| Db | 61 | KYRRLRIMTNIYLLNLAISDLLFLVTLPPFWIHYVRGHNWVFGHGMCKLLSGFYHTGLYSE  | 120 |

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Qy 121 IFFIILLTIDRYLAIVHAVFALRARTVTFGVITSIVTWGLAVLAALPEFIFYETEELFEE 180
    ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db 121 IFFIILLTIDRYLAIVHAVFALRARTVTFGVITSIVTWGLAVLAALPEFIFYETEELFEE 180

Qy 181 TLCSALYPEDTVYSWRHFHTLRMTIFCLVPLLVMAICYTGIKTLRLCPSKKKYKAIRL 240
    ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db 181 TLCSALYPEDTVYSWRHFHTLRMTIFCLVPLLVMAICYTGIKTLRLCPSKKKYKAIRL 240

Qy 241 IFVIMAVFFIFWTPYNVAILLSSYSILFGNDCER 275
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Db 241 IFVIMAVFFIFWTPYNVAILLSSYSILFGNDCER 275

```

RESULT 2

A45177

chemokine (C-C) receptor 1 - human

N;Alternate names: C-C CKR-1; macrophage inflammatory protein-1-alpha receptor

C;Species: Homo sapiens (man)

C;Date: 30-Sep-1993 #sequence\_revision 30-Sep-1993 #text\_change 13-Aug-1999

C;Accession: A45177; I55671

R;Neote, K.; DiGregorio, D.; Mak, J.Y.; Horuk, R.; Schall, T.J.

Cell 72, 415-425, 1993

A;Title: Molecular cloning, functional expression, and signaling characteristics of a C-C chemokine receptor.

A;Reference number: A45177; MUID:93161416

A;Accession: A45177

A;Status: nucleic acid sequence not shown

A;Molecule type: mRNA

A;Residues: 1-355 <NEO>

A;Cross-references: GB:L10918; NID:g292416; PIDN:AAA36543.1; PID:g292417

A;Experimental source: HL60 cells

A;Note: sequence extracted from NCBI backbone (NCBIP:124876)

R;Gao, J.

J. Exp. Med. 177, 1421-1427, 1993

A;Title: Structure and functional expression of the human macrophage inflammatory 1 alpha (MIP-1alpha)/RANTES receptor.

A;Reference number: I55671; MUID:93240122

A;Accession: I55671

A;Status: preliminary; translated from GB/EMBL/DDBJ

A;Molecule type: mRNA

A;Residues: 1-355 <RES>

A;Cross-references: GB:L10918; NID:g292416; PIDN:AAA36543.1; PID:g292417

C;Genetics:

A;Gene: GDB:CMKBR1; CMKR-1

A;Cross-references: GDB:138446; OMIM:601159

A;Map position: 3p21-3p21

C;Superfamily: vertebrate rhodopsin

C;Keywords: disulfide bond; G protein-coupled receptor; glycoprotein; phosphoprotein; transmembrane protein

F;36-60/Domain: transmembrane #status predicted <TM1>

F;71-91/Domain: transmembrane #status predicted <TM2>

F;108-129/Domain: transmembrane #status predicted <TM3>

F;147-171/Domain: transmembrane #status predicted <TM4>

F;205-223/Domain: transmembrane #status predicted <TM5>

F;240-264/Domain: transmembrane #status predicted <TM6>

F;288-305/Domain: transmembrane #status predicted <TM7>

F;5/Binding site: carbohydrate (Asn) (covalent) #status predicted

F;24-273,106-183/Disulfide bonds: #status predicted

F;345/Binding site: phosphate (Ser) (covalent) (by casein kinase II) #status predicted

Query Match 11.5%; Score 41; DB 2; Length 355;

Best Local Similarity 100.0%; Pred. No. 1.2e-33;

Matches 41; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy 115 TGLYSEIFFIILLTIDRYLAIVHAVFALRARTVTFGVITSI 155
    ||||||||||||||||||||||||||||||||||||
Db 115 TGLYSEIFFIILLTIDRYLAIVHAVFALRARTVTFGVITSI 155

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I49339

Query Match 9.3%; Score 33; DB 2; Length 355;  
Best Local Similarity 100.0%; Pred. No. 1.9e-25;  
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

RESULT 5

JC2443  
chemokine (C-C) receptor 2, splice form B - human  
N;Alternate names: C-C CKR-2; monocyte chemoattractant protein 1 receptor; monocyte chemotactin 1 receptor  
C;Species: Homo sapiens (man)  
C;Date: 21-Feb-1995 #sequence\_revision 05-Apr-1995 #text\_change 20-Jun-2000  
C;Accession: JC2443; I38463  
R;Yamagami, S.; Tokuda, Y.; Ishii, K.; Tanaka, H.; Endo, N.  
Biochem. Biophys. Res. Commun. 202, 1156-1162, 1994  
A;Title: cDNA cloning and functional expression of a human monocyte chemoattractant protein 1 receptor.  
A;Reference number: JC2443; MUID:94324942  
A;Accession: JC2443  
A;Molecule type: mRNA  
A;Residues: 1-360 <YAM>  
A;Cross-references: DDBJ:D29984; NID:g531246; PIDN:BAA06253.1; PID:g531247  
R;Charo, I.F.; Myers, S.J.; Herman, A.; Franci, C.; Connolly, A.J.; Coughlin, S.R.  
Proc. Natl. Acad. Sci. U.S.A. 91, 2752-2756, 1994  
A;Title: Molecular cloning and functional expression of two monocyte chemoattractant protein 1 receptors reveals alternate splicing of the carboxyl-terminal tails.  
A;Reference number: A53477; MUID:94195821  
A;Accession: I38463  
A;Status: preliminary  
A;Molecule type: mRNA  
A;Residues: 1-360 <RES>  
A;Cross-references: EMBL:U03905; NID:g472557; PIDN:AAA19120.1; PID:g472558  
C;Genetics:  
A;Gene: GDB:CMKBR2  
A;Cross-references: GDB:337364; OMIM:601267  
A;Map position: 3p21-3p21  
C;Superfamily: vertebrate rhodopsin  
C;Keywords: alternative splicing; G protein-coupled receptor; glycoprotein; transmembrane protein  
F;43-70/Domain: transmembrane #status predicted <TM1>  
F;81-100/Domain: transmembrane #status predicted <TM2>  
F;115-136/Domain: transmembrane #status predicted <TM3>  
F;154-178/Domain: transmembrane #status predicted <TM4>

F;207-226/Domain: transmembrane #status predicted <TM5>  
 F;244-268/Domain: transmembrane #status predicted <TM6>  
 F;287-309/Domain: transmembrane #status predicted <TM7>  
 F;14/Binding site: carbohydrate (Asn) (covalent) #status predicted  
 F;113-190/Disulfide bonds: #status predicted

Query Match 6.2%; Score 22; DB 2; Length 360;  
 Best Local Similarity 100.0%; Pred. No. 3.7e-14;  
 Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 121 IFFIILLTIDRYLAIVHAVFAL 142  
 |||||  
 Db 128 IFFIILLTIDRYLAIVHAVFAL 149

RESULT 6  
 I38450

chemokine (C-C) receptor 2, splice form A - human  
 N;Alternate names: C-C CKR-2; monocyte chemoattractant protein 1 receptor; monocyte chemotactin 1 receptor  
 C;Species: Homo sapiens (man)  
 C;Date: 16-Feb-1996 #sequence\_revision 16-Feb-1996 #text\_change 13-Aug-1999  
 C;Accession: I38450  
 R;Charo, I.F.; Myers, S.J.; Herman, A.; Franci, C.; Connolly, A.J.; Coughlin, S.R. Proc. Natl. Acad. Sci. U.S.A. 91, 2752-2756, 1994  
 A;Title: Molecular cloning and functional expression of two monocyte chemoattractant protein 1 receptors reveals alternate splicing of the carboxyl-terminal tails.  
 A;Reference number: A53477; MUID:94195821  
 A;Accession: I38450  
 A;Status: preliminary  
 A;Molecule type: mRNA  
 A;Residues: 1-374 <RES>  
 A;Cross-references: EMBL:U03882; NID:g472555; PIDN:AAA19119.1; PID:g472556  
 C;Genetics:  
 A;Gene: GDB:CMKBR2  
 A;Cross-references: GDB:337364; OMIM:601267  
 A;Map position: 3p21-3p21  
 C;Superfamily: vertebrate rhodopsin  
 C;Keywords: alternative splicing; G protein-coupled receptor; glycoprotein; transmembrane protein  
 F;44-68/Domain: transmembrane #status predicted <TM1>  
 F;79-99/Domain: transmembrane #status predicted <TM2>  
 F;115-136/Domain: transmembrane #status predicted <TM3>  
 F;154-178/Domain: transmembrane #status predicted <TM4>  
 F;208-226/Domain: transmembrane #status predicted <TM5>  
 F;244-265/Domain: transmembrane #status predicted <TM6>  
 F;292-309/Domain: transmembrane #status predicted <TM7>  
 F;14/Binding site: carbohydrate (Asn) (covalent) #status predicted  
 F;32-277,113-190/Disulfide bonds: #status predicted

Query Match 6.2%; Score 22; DB 2; Length 374;  
 Best Local Similarity 100.0%; Pred. No. 3.8e-14;  
 Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 121 IFFIILLTIDRYLAIVHAVFAL 142  
 |||||  
 Db 128 IFFIILLTIDRYLAIVHAVFAL 149

#### SUMMARIES

| Result No. | Score | % Match | Query Length | DB | ID         | Description        |
|------------|-------|---------|--------------|----|------------|--------------------|
| 1          | 355   | 100.0   | 355          | 1  | CKR3_HUMAN | P51677 homo sapien |
| 2          | 64    | 18.0    | 355          | 1  | CKR3_MACMU | P56483 macaca mula |
| 3          | 55    | 15.5    | 355          | 1  | CKR3_CERAE | P56492 cercopithec |

|    |    |      |     |   |            |        |              |
|----|----|------|-----|---|------------|--------|--------------|
| 4  | 41 | 11.5 | 355 | 1 | CKR1_HUMAN | P32246 | homo sapien  |
| 5  | 41 | 11.5 | 355 | 1 | CKR1_MACMU | P56482 | macaca mula  |
| 6  | 33 | 9.3  | 355 | 1 | CKR1_MOUSE | P51675 | mus musculus |
| 7  | 33 | 9.3  | 359 | 1 | CKR3_MOUSE | P51678 | mus musculus |
| 8  | 29 | 8.2  | 358 | 1 | CKR3_CAVPO | Q922i3 | cavia porce  |
| 9  | 23 | 6.5  | 359 | 1 | CKR3_RAT   | O54814 | rattus norv  |
| 10 | 22 | 6.2  | 352 | 1 | CKR5_CERAE | P56493 | cercopithec  |
| 11 | 22 | 6.2  | 352 | 1 | CKR5_CERTO | O62743 | cercocobus   |
| 12 | 22 | 6.2  | 352 | 1 | CKR5_GORGO | P56439 | gorilla gor  |
| 13 | 22 | 6.2  | 352 | 1 | CKR5_HYLLE | O97883 | hylobates l  |
| 14 | 22 | 6.2  | 352 | 1 | CKR5_MACMU | P79436 | macaca mula  |
| 15 | 22 | 6.2  | 352 | 1 | CKR5_PANTR | P56440 | pan troglod  |
| 16 | 22 | 6.2  | 352 | 1 | CKR5_PAPHA | P56441 | papio hamad  |
| 17 | 22 | 6.2  | 352 | 1 | CKR5_PONPY | O97881 | pongo pygma  |
| 18 | 22 | 6.2  | 352 | 1 | CKR5_PYGBI | O97880 | pygathrix b  |

# RESULT 4

## CKR1\_HUMAN

ID CKR1\_HUMAN STANDARD; PRT; 355 AA.

AC P32246;

DT 01-OCT-1993 (Rel. 27, Created)

DT 01-OCT-1993 (Rel. 27, Last sequence update)

DT 16-OCT-2001 (Rel. 40, Last annotation update)

DE C-C chemokine receptor type 1 (C-C CKR-1) (CC-CKR-1) (CCR-1) (CCR1)

DE (Macrophage inflammatory protein-1 alpha receptor) (MIP-1alpha-R)

DE (RANTES-R) (HM145) (LD78 receptor).

GN CCR1 OR CMKBR1 OR CMKR1.

OS Homo sapiens (Human).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

OX NCBI\_TaxID=9606;

RN [1]

RP SEQUENCE FROM N.A.

RX MEDLINE=93161416; PubMed=7679328;

RA Neote K., Digregorio D., Mak J.Y., Horuk R., Schall T.J.;

RT "Molecular cloning, functional expression, and signaling

RT characteristics of a C-C chemokine receptor.";

RL Cell 72:415-425(1993).

RN [2]

RP SEQUENCE FROM N.A.

RX MEDLINE=93240122; PubMed=7683036;

RA Gao J.-L., Kuhns D., Tiffany H.L., McDermott D., Li X., Francke U.,

RA Murphy P.M.;

RT "Structure and functional expression of the human macrophage

RT inflammatory protein 1 alpha/RANTES receptor.";

RL J. Exp. Med. 177:1421-1427(1993).

RN [3]

RP SEQUENCE FROM N.A.

RC TISSUE=Monocytes;

RX MEDLINE=94092629; PubMed=7505609;

RA Nomura H., Nielsen B.W., Matsushima K.;

RT "Molecular cloning of cDNAs encoding a LD78 receptor and putative

RT leukocyte chemotactic peptide receptors.";

RL Int. Immunol. 5:1239-1249(1993).

CC -!- FUNCTION: RECEPTOR FOR A C-C TYPE CHEMOKINE. BINDS TO MIP-1-ALPHA,

CC MIP-1 DELTA, RANTES, AND MCP-3 AND, LESS EFFICIENTLY, TO MIP-1-

CC BETA OR MCP-1 AND SUBSEQUENTLY TRANSDUCES A SIGNAL BY INCREASING

CC THE INTRACELLULAR CALCIUM IONS LEVEL. RESPONSIBLE FOR AFFECTING

CC STEM CELL PROLIFERATION.

CC -!- SUBCELLULAR LOCATION: Integral membrane protein.

CC -!- TISSUE SPECIFICITY: WIDELY EXPRESSED IN DIFFERENT HEMATOPOIETIC

CC CELLS.

CC -!- SIMILARITY: BELONGS TO FAMILY 1 OF G-PROTEIN COUPLED RECEPTORS.

CC -----

CC This SWISS-PROT entry is copyright. It is produced through a collaboration

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CC or send an email to [license@isb-sib.ch](mailto:license@isb-sib.ch)).

-----  
DR EMBL; L09230; AAA58408.1; -.  
DR EMBL; L10918; AAA36543.1; -.  
DR EMBL; D10925; BAA01723.1; -.  
DR PIR; A45177; A45177.  
DR GCRDb; GCR\_0498; -.  
DR GCRDb; GCR\_0557; -.  
DR GCRDb; GCR\_0573; -.  
DR MIM; 601159; -.  
DR InterPro; IPR000276; GPCR\_Rhodpsn.  
DR Pfam; PF00001; 7tm\_1; 1.  
DR PRINTS; PR00237; GPCRRHODOPSN.  
DR PROSITE; PS00237; G\_PROTEIN\_RECEP\_F1\_1; 1.  
DR PROSITE; PS00262; G\_PROTEIN\_RECEP\_F1\_2; 1.  
KW G-protein coupled receptor; Transmembrane; Glycoprotein.  
FT DOMAIN 1 34 EXTRACELLULAR (POTENTIAL).  
FT TRANSMEM 35 60 1 (POTENTIAL).  
FT DOMAIN 61 64 CYTOPLASMIC (POTENTIAL).  
FT TRANSMEM 65 91 2 (POTENTIAL).  
FT DOMAIN 92 107 EXTRACELLULAR (POTENTIAL).  
FT TRANSMEM 108 129 3 (POTENTIAL).  
FT DOMAIN 130 146 CYTOPLASMIC (POTENTIAL).  
FT TRANSMEM 147 171 4 (POTENTIAL).  
FT DOMAIN 172 197 EXTRACELLULAR (POTENTIAL).  
FT TRANSMEM 198 223 5 (POTENTIAL).  
FT DOMAIN 224 239 CYTOPLASMIC (POTENTIAL).  
FT TRANSMEM 240 264 6 (POTENTIAL).  
FT DOMAIN 265 281 EXTRACELLULAR (POTENTIAL).  
FT TRANSMEM 282 305 7 (POTENTIAL).  
FT DOMAIN 306 355 CYTOPLASMIC (POTENTIAL).  
FT CARBOHYD 5 5 N-LINKED (GLCNAC. . .) (POTENTIAL).  
FT DISULFID 106 183 BY SIMILARITY.  
FT CONFLICT 337 337 E -> D (IN REF. 3).  
SQ SEQUENCE 355 AA; 41172 MW; B2C100FFED275985 CRC64;

Query Match 11.5%; Score 41; DB 1; Length 355;  
Best Local Similarity 100.0%; Pred. No. 3.2e-31;  
Matches 41; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 115 TGLYSEIFFIILLTIDRYLAIVHAVFALRARTVTFGVITSI 155  
|||||  
Db 115 TGLYSEIFFIILLTIDRYLAIVHAVFALRARTVTFGVITSI 155

RESULT 6  
CKR1\_MOUSE  
ID CKR1\_MOUSE STANDARD; PRT; 355 AA.  
AC P51675;  
DT 01-OCT-1996 (Rel. 34, Created)  
DT 01-OCT-1996 (Rel. 34, Last sequence update)  
DT 30-MAY-2000 (Rel. 39, Last annotation update)  
DE C-C chemokine receptor type 1 (C-C CKR-1) (CC-CKR-1) (CCR-1) (CCR1)  
DE (Macrophage inflammatory protein-1 alpha receptor) (MIP-1alpha-R)  
DE (RANTES-R).  
GN CCR1 OR CMKBR1.  
OS Mus musculus (Mouse).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.  
OX NCBI\_TaxID=10090;  
RN [1]  
RP SEQUENCE FROM N.A.  
RC STRAIN=129/SV; TISSUE=Peritoneal macrophage;  
RX MEDLINE=96072806; PubMed=7594543;  
RA Post T.W., Bozic C.R., Rothenberg M.E., Luster A.D., Gerard N.,  
RA Gerard C.;  
RT "Molecular characterization of two murine eosinophil beta chemokine

RT receptors.";  
 RL J. Immunol. 155:5299-5305(1995).  
 RN [2]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=129/SVJ;  
 RX MEDLINE=95340546; PubMed=7542241;  
 RA Gao J.-L., Murphy P.M.;  
 RT "Cloning and differential tissue-specific expression of three mouse  
 RT beta chemokine receptor-like genes, including the gene for a  
 RT functional macrophage inflammatory protein-1 alpha receptor.";  
 RL J. Biol. Chem. 270:17494-17501(1995).  
 CC -!- FUNCTION: RECEPTOR FOR A C-C TYPE CHEMOKINE. BINDS TO MIP-1-ALPHA,  
 CC RANTES, AND LESS EFFICIENTLY, TO MIP-1-BETA OR MCP-1 AND  
 CC SUBSEQUENTLY TRANSDUCES A SIGNAL BY INCREASING THE INTRACELLULAR  
 CC CALCIUM IONS LEVEL. RESPONSIBLE FOR AFFECTING STEM CELL  
 CC PROLIFERATION.  
 CC -!- SUBCELLULAR LOCATION: Integral membrane protein.  
 CC -!- TISSUE SPECIFICITY: DETECTED IN THE HEART, SPLEEN, LUNG,  
 CC PERITONEAL EXUDATE CELLS AND LEUKOCYTES.  
 CC -!- SIMILARITY: BELONGS TO FAMILY 1 OF G-PROTEIN COUPLED RECEPTORS.  
 CC -----  
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 CC -----  
 DR EMBL; U29678; AAA86119.1; -.  
 DR EMBL; U28404; AAA89153.1; -.  
 DR GCRDb; GCR\_1672; -.  
 DR GCRDb; GCR\_1698; -.  
 DR MGD; MGI:104618; Cmkbr1.  
 DR InterPro; IPR000276; GPCR\_Rhodpsn.  
 DR Pfam; PF00001; 7tm\_1; 1.  
 DR PRINTS; PR00237; GPCRRHODOPSN.  
 DR PROSITE; PS00237; G\_PROTEIN\_RECEP\_F1\_1; 1.  
 DR PROSITE; PS50262; G\_PROTEIN\_RECEP\_F1\_2; 1.  
 KW G-protein coupled receptor; Transmembrane.  
 FT DOMAIN 1 34 EXTRACELLULAR (POTENTIAL).  
 FT TRANSMEM 35 60 1 (POTENTIAL).  
 FT DOMAIN 61 64 CYTOPLASMIC (POTENTIAL).  
 FT TRANSMEM 65 91 2 (POTENTIAL).  
 FT DOMAIN 92 107 EXTRACELLULAR (POTENTIAL).  
 FT TRANSMEM 108 129 3 (POTENTIAL).  
 FT DOMAIN 130 146 CYTOPLASMIC (POTENTIAL).  
 FT TRANSMEM 147 171 4 (POTENTIAL).  
 FT DOMAIN 172 197 EXTRACELLULAR (POTENTIAL).  
 FT TRANSMEM 198 223 5 (POTENTIAL).  
 FT DOMAIN 224 239 CYTOPLASMIC (POTENTIAL).  
 FT TRANSMEM 240 264 6 (POTENTIAL).  
 FT DOMAIN 265 281 EXTRACELLULAR (POTENTIAL).  
 FT TRANSMEM 282 305 7 (POTENTIAL).  
 FT DOMAIN 306 355 CYTOPLASMIC (POTENTIAL).  
 FT DISULFID 106 183 BY SIMILARITY.  
 FT CONFLICT 55 55 M -> V (IN REF. 2).  
 SQ SEQUENCE 355 AA; 40901 MW; FCE9FFF70E6F38B1 CRC64;

Query Match 9.3%; Score 33; DB 1; Length 355;  
 Best Local Similarity 100.0%; Pred. No. 1.3e-23;  
 Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 116 GLYSEIFFIILLTIDRYLAIVHAVFALRARTVT 148  
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 Db 116 GLYSEIFFIILLTIDRYLAIVHAVFALRARTVT 148